

# Language Profile of the US Physician Workforce: a Descriptive Study from a National Physician Survey



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## INTRODUCTION

More than 67 million US persons (22%) speak a non-English language at home.<sup>1</sup> Physician-patient language concordance increases high-quality, equitable care for patients with non-English language preferences.<sup>2</sup> In 2020, 62% of US medical residency applicants reported an advanced level or higher in at least one non-English language.<sup>3</sup> However, inconsistent language assessment and documentation make it difficult to evaluate practicing physicians' language skills or determine whether healthcare encounters are language-concordant.<sup>4</sup> Moreover, the lack of physician language data limits the success of federal initiatives for language-appropriate healthcare, such as Title VI of the 1964 Civil Rights Act and Healthy People 2030.

This study examines the language profile of the US physician workforce and the characteristics of multilingual physicians—those who speak one or more languages besides English.

## METHODS

We analyzed data from the Association of American Medical College's 2019 National Sample Survey of Physicians ( $n=6000$ ).<sup>5</sup> Except for international medical graduates (IMGs, underrepresented by 6%), this data is representative of US practicing physicians in the 2018 American Medical Association's Physician Masterfile. The American Institutes for Research Institutional Review Board deemed the study exempt (Protocol #IRB00000436).

We report demographics, practice characteristics, up to three languages spoken, and frequency of language use in patient care. We dichotomized multi-level measures, applied survey weights, and used double-sided, independent-sample  $t$ -

tests to assess differences in prevalence rates. We determined significance using  $\alpha=0.05$  and conducted analyses in SAS version 9.4.

## RESULTS

Overall, 39.7% of physicians reported speaking a language besides English. Among multilingual physicians, 37.3% reported frequently using a non-English language with patients (Table 1). Compared to English-only respondents, multilingual physicians were more likely to originate from urban settings (42.2% vs. 21.2%,  $P<0.001$ ) and identify as Latinx (7.8% vs. 1.1%,  $P<0.001$ ), Asian (39.2% vs. 11.6%,  $P<0.001$ ), or Other race/ethnicity (5.1% vs. 1.9%,  $P<0.001$ ). They were also more likely to identify as women (trans- or cis-; 37.5% vs. 33.3%,  $P=0.001$ ), be IMGs (43.0% vs. 7.6%,  $P<0.001$ ), and practice in medical specialties (19.4% vs. 14.9%,  $P<0.001$ ).

The top five physician non-English languages were Spanish (35.5% of all reported languages), Hindi (17.1%), French (10.2%), Chinese (Mandarin, 8.0%), and Russian (5.7%) (Fig. 1). However, Spanish (59.3%), Vietnamese (41.5%), Chinese (Cantonese, 41.2%), Korean (39.5%), Japanese (33.0%), and Polish (31.3%) were the only languages used frequently with patients by at least 30% of physicians who reported speaking them. Physicians reporting frequent non-English language use were more likely to identify as Latinx (15.8% vs. 3.0%,  $P<0.01$ ) and practice in primary care (39.8% vs. 32.0%,  $P<0.01$ ).

## DISCUSSION

This study provides the first characterization of the US physician workforce's language profile. Nearly 40% of practicing physicians are multilingual, and roughly 10% report frequent non-English language use with patients. IMGs accounted for 43% of multilingual physicians but 21.7% of all physicians. Physicians identifying as Latinx, Asian, or Other race/ethnicity were likelier to have multilingual skills, underscoring the need for increased physician diversity.

Spanish is the most prevalent US physician non-English language and the only language used frequently in patient care by most of its speakers. This is consistent with prior research showing that physicians-in-training often use Spanish skills with patients due to perceived necessity.<sup>6</sup> After Spanish, the

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**Table 1 Demographic and Practice Characteristics of US Physicians by Language Ability\* and Frequency† of Non-English Language Use in Patient Care**

	Total participants (n=6000)	English-only (n=3619)	Multilingual (n=2381)	P value¶	Frequency of language use reported by multilingual physicians		P value
					Frequent use (n=887)	Infrequent use (n=1494)	
	Physicians with data, No. (%)				Physicians with data, No. (%)		
Area where respondent grew up							
Rural	864 (14.4)	626 (17.3)	238 (10)	<0.001	83 (9.3)	155 (10.4)	0.41
Suburban	3338 (55.6)	2213 (61.1)	1125 (47.3)	<0.001	399 (45.0)	726 (48.7)	0.10
Urban	1772 (29.5)	767 (21.2)	1005 (42.2)	<0.001	398 (44.9)	607 (40.7)	0.05
Military or government installation	25 (0.4)	14 (0.4)	11 (0.5)		NA	NA	
Age (mean in years, 95% CI)	52.4	53.2 (52.9,53.6)	51.2 (50.7, 51.7)	<0.001	51.2 (50.5, 52.0)	51.2 (50.6, 51.7)	0.86
Race/ethnicity‡							
Latinx §	224 (3.7)	38 (1.1)	185 (7.8)	<0.001	140 (15.8)	45 (3.0)	<0.001
American Indian or Alaskan Native	24 (0.4)	14 (0.4)	10 (0.4)		NA	NA	
Asian	1352 (22.5)	419 (11.6)	933 (39.2)	<0.001	305 (34.4)	628 (42.0)	<0.001
Black or African American	155 (2.6)	114 (3.1)	41 (1.7)	<0.001	20 (2.3)	21 (1.4)	
Native Hawaiian or other Pacific Islander	27 (0.5)	13 (0.4)	14 (0.6)		NA	NA	
White	4148 (69.1)	2999 (82.9)	1149 (48.2)	<0.001	406 (45.8)	743 (49.7)	0.08
Other	191 (3.2)	69 (1.9)	122 (5.1)	<0.001	45 (5.0)	78 (5.2)	0.86
Gender identity‡							
Man	3879 (64.7)	2396 (66.3)	1484 (62.4)	0.003	545 (61.5)	938 (62.9)	0.53
Woman	2097 (35.0)	1205 (33.3)	892 (37.5)	0.001	340 (38.4)	552 (37.0)	0.52
Genderqueer or other	18 (0.3)	15 (0.4)	NA		NA	NA	
Sexual orientation							
Bisexual	61 (1.0)	26 (0.7)	35 (1.5)		13 (1.5)	23 (1.5)	
Gay or Lesbian	114 (1.9)	69 (1.9)	45 (1.9)	0.96	21 (2.4)	24 (1.6)	
Heterosexual or Straight	5718 (95.3)	3465 (96.4)	2253 (95.4)	0.05	832 (94.9)	1421 (95.6)	0.47
None of the above	64 (1.1)	35 (1.0)	30 (1.3)	0.33	11 (1.2)	19 (1.3)	
Medical school type							
USMG	4674 (78.4)	3325 (92.4)	1349 (57.0)	<0.001	520 (59.3)	829 (55.6)	0.10
IMG	1291 (21.7)	273 (7.6)	1018 (43.0)		357 (40.7)	661 (44.4)	
Specialty group							
Primary care specialties	2090 (34.8)	1257 (34.8)	833 (35.0)	0.86	354 (39.9)	479 (32.1)	<0.001
Medical specialties	1002 (16.7)	541 (14.9)	461 (19.4)	<0.001	165 (18.6)	296 (19.8)	0.48
Surgical specialties	1133 (18.9)	719 (19.9)	414 (17.4)	0.02	166 (18.7)	248 (16.6)	0.23
Other specialties#	1775 (29.6)	1102 (30.4)	673 (28.3)	0.07	203 (22.9)	470 (31.5)	<0.001

Abbreviations: USMG, United States Medical Graduate; IMG, International Medical Graduate

Note: Data representing fewer than 10 participants were not included in the tables (NA)

\*Physicians were defined as being “multilingual” if they reported fluency in English and at least one non-English language; respondents were able to report up to three non-English languages

†Frequent language use was defined as a language being used “always” or “often” when communicating with patients

‡ This item allowed multiple responses; percentages may not sum to 100

§ “Latinx” was used to represent any participant who identified as Latino/Latina/Latinx, Hispanic, or of Spanish origin

|| “Man” includes cis-man and trans-man, and “Woman” includes cis-woman and trans-woman

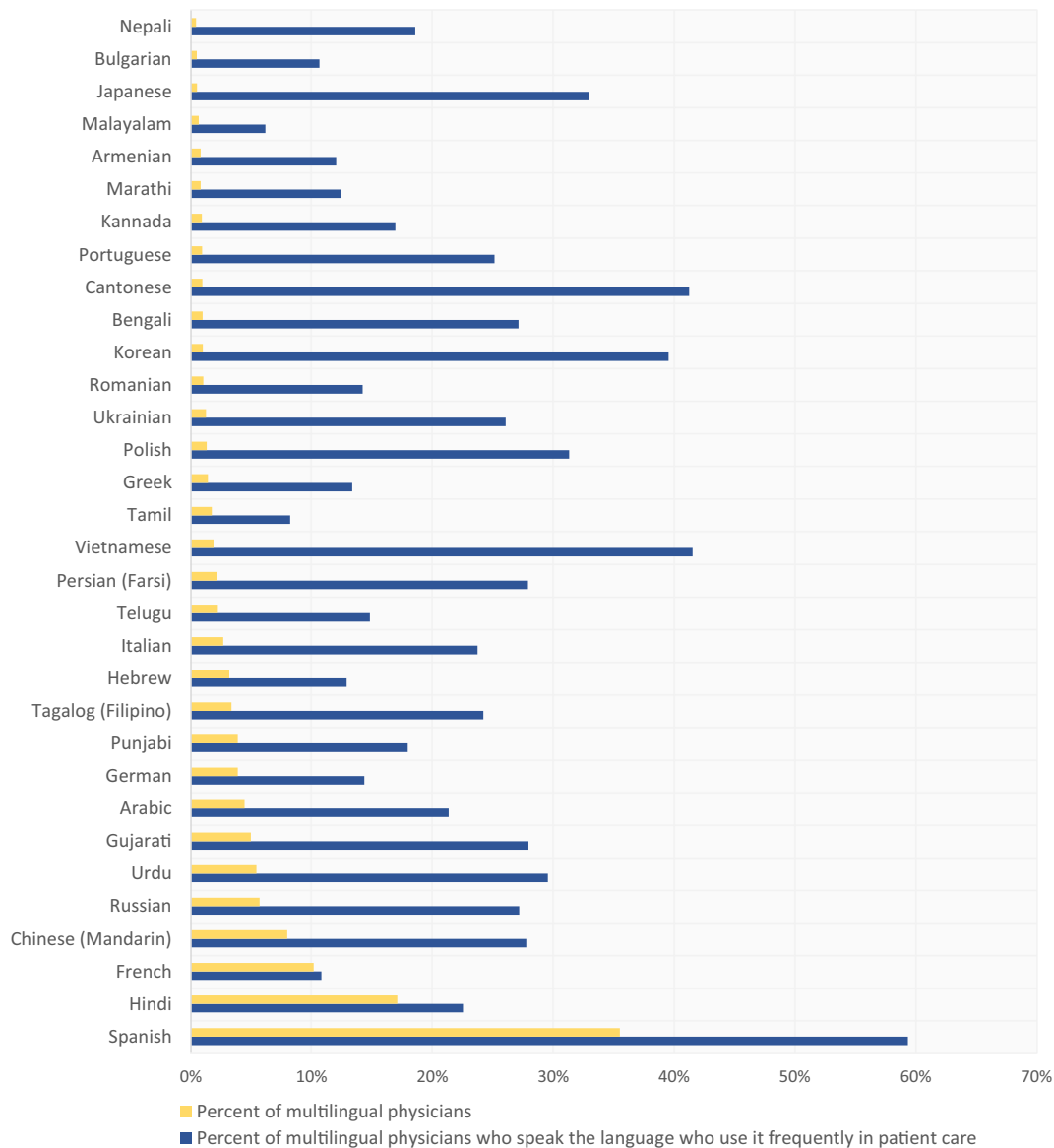
¶ P value was not calculated for variables where at least one cell had a count less than 30

# “Other” includes all specialties that do not fall into the other three listed categories, such as anesthesiology, emergency medicine, neurology, pathology, physical medicine and rehabilitation, psychiatry, and radiology

most frequently used languages in patient care—Vietnamese, Chinese (Cantonese), Korean, Japanese, and Polish—are not in the five most common languages US physicians speak. This potential mismatch between physician language skills and patient population needs warrants additional research.

Our study has some limitations. First, the survey did not define “fluency” or ask physicians to specify language skill

level. Second, we did not explore why physicians used or did not use non-English languages with patients. Reasons may include self-perceived linguistic limitations, limited hospital language resources, and local language prevalence. Understanding these factors may inform solutions for improving language-concordant care in linguistically diverse communities.



**Figure 1** Percent of multilingual physicians reporting having skills in a language compared to frequency of reported use in patient care. “Multilingual” physicians reported at least one language in addition to English; respondents were able to report up to three non-English languages. Frequent language use was defined as a language being used “always” or “often” when communicating with patients.

Our findings provide a baseline to examine physician language skills and have research, policy, and educational implications. Future research should analyze the intersectionality of physician language with other demographic characteristics and evaluate the geographic distribution of multilingual physicians. Since many physicians have and use multilingual skills, institutions should consider language proficiency standards for those planning to provide language-concordant care. Physicians may also benefit from training and assessment to understand their healthcare language skills and effectively collaborate with medical interpreters.

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**Declarations:**

**Conflict of Interest:** Dr. Ortega receives author royalties for textbooks from Elsevier. The authors have no other conflicts of interest to report.

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